



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,475	07/01/2003	Akio Sugimoto	KOBE.0052	1029
38327	7590	05/08/2007		
REED SMITH LLP 3110 FAIRVIEW PARK DRIVE, SUITE 1400 FALLS CHURCH, VA 22042			EXAMINER VO, HAI	
			ART UNIT 1771	PAPER NUMBER
			MAIL DATE 05/08/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/609,475

Applicant(s)

SUGIMOTO ET AL.

Examiner

Hai Vo

Art Unit

1771

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6 and 8-34 is/are pending in the application.
- 4a) Of the above claim(s) 19-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 8-18 and 23-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

Art Unit: 1771

1. All of the art rejections are repeated.

Claim Objections

2. Claims 1, 6, 8-18 and 24-26 are objected to because of the following informalities:

line 4, the term "forabable" is misspelled. It appears that claims 24-26 are dependent from claim 7 which was already cancelled. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 6, 8-18 and 24-26, 28 and 33 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sato et al (US 4,734,323). Sato discloses a three-layered laminate comprising a vibration damping layer-forming material 7, a sound proof layer-forming material 8 and a plate layer forming material 9 (column 14, lines 63-67). The three-layered laminate is set to a panel surface of a vehicle and heated to a temperature of 140°C to 160°C. The sound proof layer-forming material 8 *is foamed* to form a porous soundproof layer 23 (column 15, lines 5-10). Likewise, the foamable resin material 8 is going from a unfoamed state to a foamed state to form a foamed material 23 by heating at a foaming temperature. It has been known in the art that a foamed material has a thickness greater than the thickness of an originally unfoamed material after expansion. The porous soundproof layer has a thickness of 10 mm while the vibration layer has a thickness of 1 mm (table 6). Likewise, it is clearly apparent that the porous soundproof is thick enough to enhance a rigidity of the panel surface of the vehicle. The surface of the foamed soundproof layer is not flat as shown in comparative examples 4-6 of table 4. The foam layer includes 1,2-polybutadiene having a melting point of 80°C while the retainer layer includes a thermosetting phenol resin which has a melting point much higher than the melting point of 1,2-polybutadiene (column 3, lines 15-17, column 4, lines 5-10). Likewise, the resins of the retainer layer and the foam layer would have different melting temperatures and foaming temperatures. Since Sato uses the same resin to form the foam layer as Applicants, it is not seen that the melting point of the resin would be outside the

claimed range. This is in line with *In re Spada*, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties. Thermally fusion, mixing the foaming agent, setting the foaming temperature are directed to product-by-process limitations. However, they are not as yet shown to produce a patentably distinct article. It is the examiner's position that the laminate structure is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity. The laminate structure comprises of a foam layer/non-foam layer/hard plate. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Sato. Accordingly, it is the examiner's position that Sato anticipates or strongly suggests the claimed subject matter.

6. The art rejections over Sato have been maintained for the following reasons.

Applicants argue that Sato discloses a laminate sheet comprising a plate, a soundproof layer and a vibration-damping layer wherein the soundproof layer is of an already foamed rubber. The examiner respectfully disagrees. Sato discloses a three-layered laminate comprising a vibration damping layer-forming material 7, a sound proof layer-forming material 8 and a plate layer forming material 9 (column 14, lines 63-67). The three-layered laminate is set to a panel surface of a vehicle and heated to a temperature of 140°C to 160°C. The sound proof layer-forming material 8 *is foamed* to form a porous soundproof layer 23 (column 15, lines 5-10). Likewise, the foamable resin material 8 is going from a unfoamed state to a foamed state to form a foamed material 23 by heating at a foaming temperature.

Applicants argue that Sato teaches the surface of the soundproof layer flat irrespective of the uneven configuration of the panel surface. The examiner directs Applicants' attention to comparative examples 4-6. The surface of the sound proof layer is not flat. Accordingly, the art rejections are sustained.

7. Claims 1-4, 6, 8-18, and 23-34 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Wycech (US 6,372,334). Wycech discloses a laminate structure comprising a metal substrate 1, a compliant foam layer 5, a rigid foam layer 6 and a backing film layer 7 (figure 5-7 and 9). Wycech discloses a first foamable resin and a second foamable resin are adhered to a hard plate prior to heating (column 3, lines 65-67, column 4, lines 1-3, and column 4, lines 55-62). The flat upper surface and flat lower surface of the

laminate as shown in figure 3 indicates that the metal plate 1 is not formed into a desired shape prior to the lamination. The rigid layer stiffens the panel (column 2, lines 60-61). Wycech discloses the polymers of the two foam layers are different (column 2, line 65 to column 3, line 1). Likewise, their melting points will be different. Wycech discloses the polymer of the rigid foam layer can be made from a material as taught by US 5,575,526 whose details have been incorporated by the reference. The '526 patent discloses the foam layer made from a thermoplastic resin, and a blowing agent. The backing layer 7 is a foil which reads on Applicant's hard metal plate (column 2, lines 33-34). The first foamable resin layer, the second foamable resin layer and backing layer are formed in a desired shape as shown in figures 5-7. The tri-laminate stiffener is composed of a substrate 1, a first layer 5 and a second layer 6.

"As shown therein a compliant foam layer 5 is applied directly against the panel or metal substrate 1. A rigid foam layer 6 is applied against the compliant foam layer 5".

"When the tri-laminate stiffener 4 cures the first intimate layer 5 can not transfer shrinkage strains to the substrate 1 and layer 5 cannot restrain the outer metal panel from shrinking when the panel comes out of the oven because it is not rigid after cure. The second layer 6 is rigid after cure but its shrinkage strain are blocked from getting to the substrate by the compliant first layer" (column 2, lines 45-67).

The passage simply suggests that a first layer 5 of foamable material capable upon activation of becoming a rigid reinforcement foam, a second layer 6 of foamable material capable upon activation of becoming a compliant foam. Additionally, it is clearly apparent that the first foamable layer and second foamable

layer being heat cured and foamed in-situ. Wycech does teach the resins of first layer and second layer going from a unfoamed state to a foamed state.

Mixing the foaming agent, setting the foaming temperature are directed to product-by-process limitations. However, they are not as yet shown to produce a patentably distinct article. It is the examiner's position that the laminate structure is identical to or only slightly different than the claimed article prepared by the method of the claim, because both articles are formed from the same materials, having structural similarity. The laminate structure comprises of a foam layer/foam layer/hard plate. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or an obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985). The burden has been shifted to the applicant to show unobvious differences between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289,291 (Fed. Cir. 1983). It is noted that if the applicant intends to rely on Examples in the specification or in a submitted Declaration to show non-obviousness, the applicant should clearly state how the Examples of the present invention are commensurate in scope with the claims and how the Comparative Examples are commensurate in scope with Wycech. Accordingly, it is the examiner's position that Wycech anticipates or strongly suggests the claimed subject matter.

Art Unit: 1771

8. The art rejections over Wycech have been maintained for the following reasons.

Applicants argue that nowhere does Wycech disclose or suggest a reinforcement laminate comprises a resin going from a unfoamed state to a foamed state. The examiner respectfully disagrees. The examiner directs Applicants' attention to column 2, lines 40-67. The tri-laminate stiffener is composed of a substrate 1, a first layer 5 and a second layer 6.

"As shown therein a compliant foam layer 5 is applied directly against the panel or metal substrate 1. A rigid foam layer 6 is applied against the compliant foam layer 5".

"When the tri-laminate stiffener 4 cures the first intimate layer 5 can not transfer shrinkage strains to the substrate 1 and layer 5 cannot restrain the outer metal panel from shrinking when the panel comes out of the oven because it is not rigid after cure. The second layer 6 is rigid after cure but its shrinkage strain are blocked from getting to the substrate by the compliant first layer".

The passage simply suggests that a first layer 5 of foamable material capable upon activation of becoming a rigid reinforcement foam, a second layer 6 of foamable material capable upon activation of becoming a compliant foam.

Additionally, it is clearly apparent that the first foamable layer and second second foamable layer being heat cured and foamed in-situ. Wycech does teach a resin of first layer and second layer going from a unfoamed state to a foamed state.

Accordingly, the art rejections are sustained.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485.

Art Unit: 1771

The examiner can normally be reached on Monday through Thursday, from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HV

Hai Vo

HAI VO
PRIMARY EXAMINER